Geosynthetics

KAYTECH
ENGINEERED FABRICS

Roads Maintenance
Drainage
N2 Van Stadens – St Albans, Eastern Cape

Case Study

Project:	N2 Section 10 – 11, Van Stadens River to St Albans Int.	**Date:**	March 2010
Client:	SANRAL	**Product:**	**Flo-Drain, Geopipe**
Consultant:	Stemele Bosch Africa (Pty) Ltd	**Quantity:**	14 000 m^2
Contractor:	Concor Roads and Earthworks	**Rep:**	Julian Maastrecht

Problem
The original design called for conventional stone subsoil drainage but as the aggregate had to be commercially acquired, the cost was substantial and a more economically viable option was sought.

Solution
Flo-Drain was offered as an alternative providing a 10% cost saving. 12 000 m **Flo-Drain** 1000 and 2 000 m **Flo-Drain** 1650 were installed along the shoulder on the median and edge of the road where required.

A full soil grading was obtained from tests of the in situ soils and analysis done on geotextile compatibility and flow capacity to assist the contractor with acceptance of the proposed **Flo-Drain** alternative. The permeability calculated was > 10 times that of the in situ soil. A check was done on transmissivity of the **Flo-Drain** and the infiltration and carrying capacity of **Geopipe** and found to be adequate. 90% passes 2 mm sieve, providing a large factor of safety against installation damage and providing the contractor opportunity to use narrow-width trenching equipment. A hydraulically compacted coarse river sand was used to backfill the trench.

Benefits
Besides the cost-saving benefit, the **Flo-Drain** system offered a solution that was considerably quicker to install than a standard aggregate drain, with minimal disruption to traffic.

Digging the narrow trench

***Flo-Drain** ready for installing*

*Installation of **Flo-Drain** into the ditch before being backfilled with river sand*